3/97

AGRO-ECOLOGICIAL ZONE MAPPING AND CROP MATRIX SCORING (AN AFTERNOON IN ERITREA)

Five of us drove from Mendefera to Adi di Tokla village. It was about 1½ hours, a short stretch of tarmac and then dirt. We came to the chosen village, Adi di Tokla (village of the wolf). We met the administrator, Habtemariam Weldai, walked a bit and sat in his office. He showed us two resource maps that had been drawn. They had various details, but nothing about zones. There are three villages which have been put together under his responsibility.

Mohari, who has been one of the Community Development trainees, and who now works in the Commission of Lands, discussed land tenure with him a bit. I finally asked him – What did he think would be a good system for land tenure in the future? "Whatever the government says" he replied.

We went outside wondering what to do. I said a discussion with farmers would be good. A woman farmer, Abrash Tekle-Haimanot, invited us for tea and we accepted. Another male farmer, Gebru Zerehun, joined us. So there were three of them.

With Haile interpreting, I asked about agro-ecological zones and what grew where. They named five zones and various crops. I asked if they could draw a map on the ground to show the zones. I gave them chalks. The British ones, dustless, were useless – they tore up the floor, but the Kenya graphite ones were OK. They started, rubbed it out, and started again. This was mainly the two men, as Abrash was making the tea. We sat quietly. All (Haile, Mohari, Mossaski, Christian and I) had PRA experience and knew not to interrupt.

As they did this they identified a sixth zone which they had forgotten – Waleha.

Then I asked if they could show which crops grew where. We tried to do a matrix on the ground, but it was not clear. Someone suggested the bottom of a pan. So we turned the pan upside down and I asked them to draw the matrix – zones down one side and crops across the top. Then they showed which crops grew where. Abrash brought the actual crops. Then I asked if they could count out 100 grains of maize, which Gebru did. Then I asked if they could distribute the 100 grains on the matrix to show the importance of the crops by zone. They did this, making adjustments and redistributing grains until they were satisfied. There was quite a lot of discussion and Abrash took part.

Then I asked if they could redraw the map on paper. I had only lined paper but fortunately Haile had brought some unlined A4. We taped three of them together with masking tape, and I gave them whatever few pens I had. They took perhaps ½ hour to redraw, adding detail, and writing in names both of zones and major features. While this was going on Haile copied out the matrix.

When they had finished the map I tried asking them what the significance was of the scores they had given in the matrix. I tried three times, through Haile, of course, as interpreter. After my second probe I congratulated them, and shook their hands, for I needed to ask yet again! It was difficult to establish horizontally, and was probably a composite of importance. But vertically for a single crop it seemed to be total production. The scores, as they stood, added to 100 each way.

When they had finished we resumed the discussion on land tenure, led by Mohari from the Land Commission. The government's proposal is land consolidation with two plots allowed per person. The three farmers each had land in most of the six zones.[1] Habtemariam, the administrator, who earlier in his office had told us that what was best was whatever the government proposed, now said, you could see why the Government's proposal was impossible. Farmers needed land in the different zones. There was a frank and lively discussion, without hostility.

We had been in the hut for perhaps no more than two hours. We had to go. Without hurry we thanked them. I asked if we could borrow the map. They said we could keep it.

POSTSCRIPT

Two days later Haile Jacob presented the map and matrix to some 25 Scientists and others at a PRA Familiarisation Workshop organised by the Association of Eritreans in Agricultural Science. There was some critical disbelief about the map, as though somehow the farmers must have got it wrong – was the village really at one end of the area? – oh it must have been very atypical and critical doubts about the matrix. What did the numbers represent? The Scientists were dismissive because the scores were not reductionist measurements. They wanted e.g. land area under the crop, or total production. They found it difficult to accept comparisons with a composite indicator. One scientist thought biases would have come in because the farmers would have had too many or too few grains near the end. Haile explained how they moved the grains around and adjusted the scores. Others said that other villagers might have produced different scores, a valid point. But Haile and the matrix stood up to it well, and three scientists stayed with him until 9 p.m. that evening, discussing PRA further, and asking if they could go out to the field with him.

ASSESSMENT

Nothing is new under the sun, but this application of a matrix with 100 seeds and a composite criterion is new to me. I hope it is applied widely in Eritrea as one means of enabling farmers to express the complexity of their farming systems. And other forms of analysis could be added. In particular this could complement and be checked by transects and by diagrams of nutrient flows, seasonal calendars for crops in the zones, economic analysis, and male/female/child labour analysis by month.

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[1] My first notes had the two men with land in four zones. Later it became all six. This would deserve cross checking.

A further requirement suggested by one of the scientists, would be to repeat the exercise for a year when the rains were late or inadequate. Yet another could be a historical matrix.

There are many possibilities. Such varied diagrams and maps could perhaps be considered as a stage in the land consolidation process, widening local participation and analysis, so that the process fits local conditions and benefits from local knowledge and understanding of needs.

Robert Chambers
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ZONES AND CHARACTERISTICS

GEDENA	Near the houses. Can grow anything.
MEMBER	Rich soils also nearby.
SAGENA	Hillsides
SANAMA	The other side of the hills.
HUZZAR	Sandy. Plagued by monkeys which live in the rocky hills.
WALEHA	Clayey, white soil.

PARTICIPANTS

Mapping/analysts:

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Facilitators:

Haile Jacob
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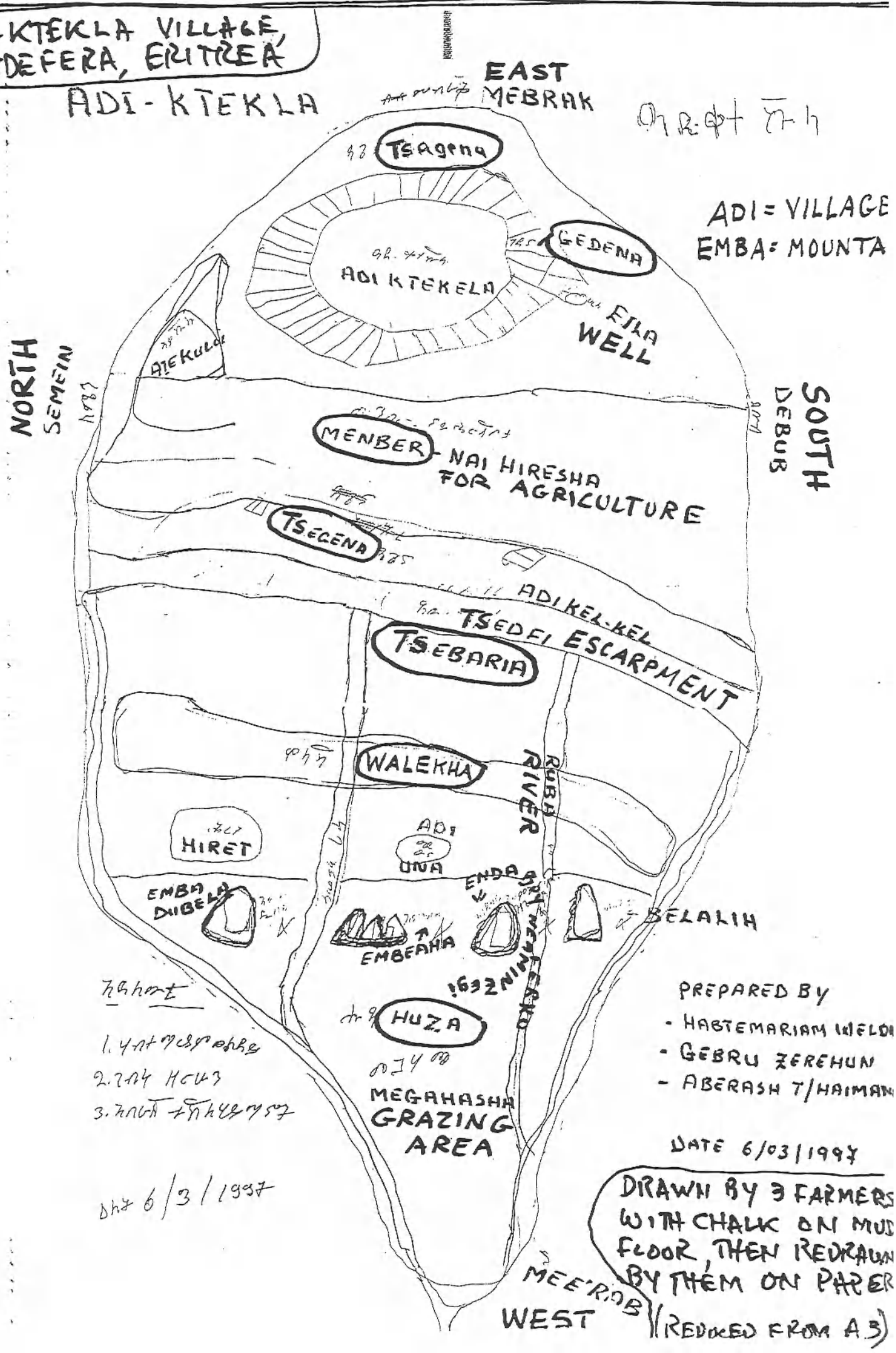
RESOURCE MAP OF VILLAGE AGROECOLOGICAL ZONES

ADI-KTEKLA VILLAGE,
MENDEFERA, ERITREA



RELATIVE IMPORTANCE OF MAIN CROPS BY AGROECOLOGICAL ZONE

ADI-KTEKLA VILLAGE, MENDEFERA, ERITREA.

	MAIZE	BARLEY	TEFF	WHEAT	SORGHUM	MILLET	FINGER MILLET	BEANS AND PEAS	TOTAL
GEDENA	3	3	5						11
MEMBER		15	8	6				6	35
ZAGIENA		4		4				4	12
TSEBARIA					9	5			14
WALENA			7		6			6	19
HUZA						4		5	9
TOTAL	3	22	20	10	15	9		21	100

METHOD: LISTING AFTER MAPPING THEN SCORING WITH 100 MAIZE GRAINS ON A MATRIX DRAWN WITH CHALK

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